# NDG Introduction to Linux I Version 2 – Cisco NetAcad™ Scope and Sequence

## Instructors and Administrators

The NDG Linux I curriculum is designed for individuals interested in learning Linux and institutions interested in NDG Linux course offerings.

### Target Audience
The NDG Introduction to Linux I curriculum is designed for individuals who want to learn Linux.
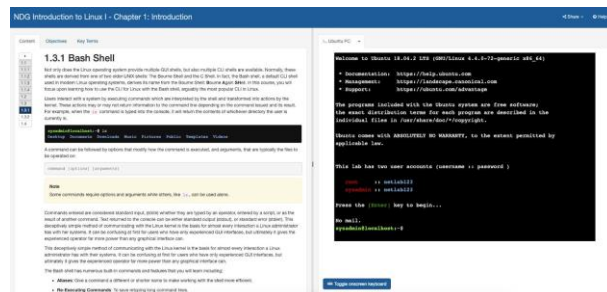
### Prerequisites
NDG Linux Essentials is recommended as a prerequisite to NDG Introduction to Linux I.

Note: Institutions desiring to start learners with course content at a higher level of rigor may choose to bypass NDG Linux Essentials. For self-paced learners who are unfamiliar with Linux, NDG Linux Essentials is highly recommended as the starting place. NDG Introduction to Linux I is aligned to the LPI LPIC-1 101 certification exam. As a course aligned to certification objectives, the amount of content rigor required by NDG Introduction to Linux I may be challenging for learners new to Linux.

### Curriculum Description
This 26 chapter, 70 hour course covers the fundamentals of the Linux operating system, system architecture, installation, command line and file system. The goal of this course is to provide academic institutions, organizations and individual learners curriculum to help prepare for the exam objectives aligned to the Linux Professional Institute, LPI.org, LPIC-1 Linux Administrator first certification exam Version 5.0 (Exam 101-500). Individuals who complete this course should understand Linux system architecture, Linux installation and packages, Linux command line, device basics and the Linux file system.

This course implements a "practice as you read" approach to learning. Each learner has hands-on access to a Linux virtual machine to practice, explore and trial Linux command line concepts. The learner is also provided 21 prescriptive step-by-step labs. These labs provide a learning environment where students interact with the Linux operating system and build on their skills and knowledge as they progress through the course.

**Curriculum Objectives**

The NDG Introduction to Linux I course focuses on the basic Linux skills needed in preparation for the Linux Professional Institute LPIC-1 LPI certification.  Learners will gain proficiency performing maintenance tasks on the command line, installing and configuring a computer running Linux and configuring basic networking.  The course objectives align to the LPI LPIC-1 exam topics:

- System Architecture
- Linux Installation and Package Management
- GNU and Unix commands
- Devices, Linux Filesystems, Filesystem Hierarchy Standard

**Course Outline**

| Title of Learning Module / Chapter | LPI.ORG LPIC-1 101 Exam Certification Objective |
|---|---|
| Before You Get Started | Course Introduction |
| 1. Introduction | 103.1  Work on the command line |
| 2. Using the Shell | 103.1  Work on the command line |
| 3. Configuring the Shell | 103.1  Work on the command line |
| 4. File Globbing | 103.3  Process basic file management |
| 5. File Manipulation | 103.3  Process basic file management |
| 6. Finding Files | 104.7  Find system files and place files in the correct location |
| 7. Text Utilities | 103.2  Process text streams using filters |
| 8. Regular Expressions | 103.7  Search text files using regular expressions |
| 9. The vi Editor | 103.8  Basic file editing |
| 10. Standard Text Streams and Redirection | 103.4  Use streams, pipes and redirects |
| 11. Managing Processes | 103.5  Create, monitor and kill processes |
| | 103.6  Modify process execution priorities |
| 12. Archive Commands | 103.3  Process basic file management |
| 13. File Permissions | 104.5  Manage file permissions and ownership |
| 14. File Systems Links | 104.6  Create and change hard and symbolic links |
| 15. Hardware Configuration | 101.1  Determine and configure hardware settings |
| 16. The Boot Process | 101.2 Boot the system |
| | 102.2 Install a boot manager |

| 17. Bootloaders | 102.2 Install a boot manager |
|---|---|
| | 101.2 Boot the system |
| 18. Runlevels | 101.3  Change runlevels and shutdown or reboot system |
| 19. Designing a Scheme | 102.1 Design hard disk layout |
| | 104.2 Maintain the integrity of filesystems |
| 20. Creating Partitions | 102.1 Design hard disk layout |
| | 104.1 Create partitions and filesystems |
| | 104.2 Maintain the integrity of filesystems |
| 21. Mounting Filesystems | 104.2 Maintain the integrity of filesystems |
| | 104.3 Control mounting and unmounting of filesystems |
| 22. Maintaining Integrity | 104.2 Maintain the integrity of filesystems |
| 23. Fixing Filesystems | 104.2 Maintain the integrity of filesystems |
| 24. Package Management | 102.4 Use Debian package management |
| | 102.5 Use RPM and YUM package management |
| 25. Managing Shared Libraries | 102.3 Manage shared libraries |
| 26. Virtualization | 102.6 Linux as a virtualization guest |

Note: NDG Introduction to Linux I will repeat some content from NDG Linux Essentials. Why? LPI Linux Essentials certificate and LPI LPIC-1 certification exam objectives overlap. To cover all objectives, topics introduced in NDG Linux Essentials may be repeated in NDG Introduction to Linux I with more in-depth, high-rigor content. For further information, reference: https://ndg.tech/HAPIEa.


**Industry Certification**

The NDG Introduction to Linux I curriculum helps individuals prepare for the LPI LPIC-1 Exam 101 certification exam.

To earn the LPI LPIC-1 certification, learners complete two certification exams. the LPI LPIC-1 Exam 101 is the first of two exams.

For additional information about the Linux Professional Institute certifications, review their website here:

https://www.lpi.org/our-certifications/summary-of-certifications

**Whom should I contact if I have questions about this course that are not explained in this document?**
Questions specific to the NDG Linux courses should be directed to Network Development Group at hostedsupport@netdevgroup.com. Please take a few minutes to review the NDG website, www.netdevgroup.com, the course materials, and this document before emailing the NDG staff.